487 up and down the slopes in a straight line are a real nightmare for any non-Murundi.

Another circumstance which makes journeying more
491 arduous is that in spite of the innumerable streams and rivers there are hardly any bridges (ikiraro) in the whole of Urundi and Ruanda. The chief reason for this defect is the lack of suitable timber in these treeless areas. Even where there is still a sufficient number of trees, a bridge is built only in very rare cases since the entire width of the valley bottoms is usually covered with reed or papyrus swamps through the middle of which weaves a narrow, open watercourse. The swamps are too wide for building bridges.

Usually there is no other way but to wade through the swampy valley bottoms and streams up to one's knees or hips in the black, stinking morass. Only rarely are papyrus fronds or reeds cut down in bunches and piled next to each other and on top of each other to form a kind of floating bridge which prevents the travelers from sinking too deeply into the swamp. When reaching wide, open rivers, such as the Ruvuvu, Akanjaru, Luvironsa, and others, the traveler seeks out well-known fords and wades across, often up to his shoulders in water, and he uses a stick or a spear for support against the force of the
[482] stream. Everything that has to be kept dry must be carried in a bundle on the head. At the same time there is much shouting to frighten away the crocodiles. If the river is too deep,
● 501 dugouts are used for the crossing, and the shore dwellers make
505 a living at this. [72] If only a few persons and light burdens have to be ferried across, primitive rafts (ikitebo) are used. They are made of several layers of dried papyrus sticks which are tied together (Plate 26b). The rafts may be used a few times until they have soaked up too much water. On the Malagarasi River, large tubs made of tree bark are used. They are big enough for one man or one burden and are pulled and pushed across the river by two or three men who have to swim (No. 19, p. 448).

491 If it happens that a big tree is standing near a deep stream which cannot be forded, it is transformed into a bridge

493 relatively long distances. These are not the comfortable, beautifully plaited carrying baskets which are in use in Ruanda for Musinga and the Batussi rulers, but in most cases they are merely two strong poles connected by crossbars which are covered with a layer of straw or a sheep skin. The traveler either lies on it or sits on it with his legs crossed under him. Old King Kisabo, who was almost blind, often traveled in this manner for several days (Plate 13a). Nevertheless, even in Urundi large, plaited wickerwork stretchers occur.

• 501 I have already briefly mentioned the boats (ubwato) in the chapter on fishing (p. 37). They are almost without exception dugouts. Only rarely and only in the easternmost region can one observe small bark canoes [73] which apparently are used solely for crossing the intermittent streams that appear during the rainy season in summer. During the dry season one can see them cracked open lying beside the dry stream beds. They are only used during one rainy season, and new ones have to be built each summer. They consist merely of three pieces of tree bark patched together with tree bast. One piece forms the bottom, the other two the sides. They hold no more than two persons.

Dugouts, however, are strong and durable, although technically they are extremely defective. We shall discuss the manner of their construction later, in the section on "Handicrafts" (p. 82); at this point we shall only describe how they are used and manipulated. On the rivers of central Urundi dugouts are rare, and due to the lack of large trees, they are small and poorly constructed (Plate 5b). Often they are quite crooked, so it is difficult to keep them balanced. In forest regions, as in north Urundi, on Lake Tanganyika, and on the Ruzizi River, they are of better quality, larger, and more numerous. On Lake Tanganyika, canoes 15 meters long and 1,50 meters wide are no rarity. The best are from the west [313] shore, from Uwembe, where the tall forest furnishes a supply [439] of good timber. They are sold to the Barundi for goats or pearls and are valued at about six to ten rupees.

501 Most boats are somewhat tapered and pointed in front and in back which makes them easy to land on the flat shore. None of the boats is equipped with a rudder; they are steered by one of the oarsmen. No oars are used in shallow water, for instance, near the shores of Lake Tanganyika; instead, long bamboo poles are used to punt the boats (Plate 26a). Short "oars" (ingaffi), approximately one and a half meters long, are used in water which is deep or when there is a strong current. The heart-shaped blades of the oars are slightly bent so that they in effect scoop the water. The oars are not suspended in slings or
502 inserted in holes but manipulated freely. The oarsmen or punters usually stand upright in the boat facing forward. If there is only one man in the boat, he will take his position at the stern; if there are two, they stand in the rear third of the boat; if there are three men, two take their places in back and one in front; if there are four, two stand in front and two in back. Only long tiring trips do they sit on the crossbars. Anyone who is not rowing crouches on the bottom of the canoe.

[501] A heavy stone tied to a bast rope is used for an anchor. There are no masts, sails, or outriggers. None of the boats is decorated with carvings or paintings. If water has entered, it is scooped out with pumpkin shells or with little wooden shovels. If, however, a boat has sprung a crack or a leak, it is repaired in the following manner: holes are pierced near the edges of the crack with a red-hot point of iron; by means of these holes, a wooden board is tied to the hull with bast ropes as though "sewing" a patch. Then the crack is calked on both sides with tree bast or reed. Bitumen, which occurs frequently on Lake Tanganyika, is also used for that purpose.

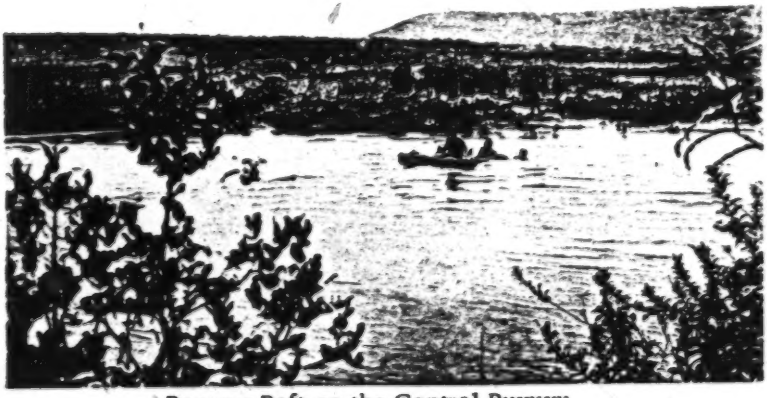
The Batwa do not have any boats but they know how to make them for their Barundi masters (No. 19, p. 66).

The poor construction of the dugouts prohibits extended trips on Lake Tanganyika. It is very seldom that a large boat with several oarsmen will cross the lake from Usumbura to Uvira. Most boats hug the shoreline, not moving more than 100 to 200 meters away from it, and even when going from Usumbura to Uvira, they move along the north shore of the lake. Frequently the government in Usumbura sends dugouts to Ujiji and

Plate 26

501
133

Punts on the North Shore of Lake Tanganyika
(Photo. by Hans Meyer, 1911)



Papyrus Raft on the Central Ruvuvu
(Photo. by Captain von Langenn-Steinkeller)

5: Pages--271 M-5 (ca. 1925) 1933 FO42 Rundi FO42

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[501
482
415]

An arm of Lake Mugessera.

Rapids in the Mukungwu in the Mulera region.

5: Pagès--274 M-5 (ca. 1925) 1933 FO42 Rundi FO42

133

Lake Ruhondo and Bahutu types. Region of the Mulera.

601

A crossing by boat.

000 hammered thin and bent down, and on it hangs the clapper.

231 Beekeeping. Bee culture plays a considerable role in Ruanda
[272] life. A great deal of honey is drunk; it is used as an additive to beer and is also mixed with water.

Bees are kept in baskets that are nearly cylindrical (imbutiba) and daubed with clay. At the bottom there are two small exits for the bees. The wider end provides an entrance for lifting out the honey, but otherwise it is closed off. Special long-handled
[143] knives (ulukezo) with short, wide blades are used to cut out the combs. The baskets are generally set up in large numbers on tall trees where they will be dry, but they are also set horizontally on special frames that have crossed legs. These frames are placed on the ground near the huts. There are also many wild bees in the country.

The province of Mulera has the greatest number of bees. In
[435] Bgisha a great deal of honey is sold. The price was two yards of material for two pots of about three liters each.

226 Fishing. The population near the lakes of Ruanda are fisherfolk. Net fishing is called kuteguza ifi. The various nets are called ujegwi, chera, and amahinda. The fish traps are called birumbi. They consist of a long cone into which is placed a second shorter one with its point cut off. The two are fastened together at their thicker basal ends. [148] There is little line fishing, but the fishhook is not unknown, although one does not see it very often.

501 The boats are simple dugouts about five meters long and 50 centimeters wide. They are very irregularly shaped, since the natural curve of the tree trunk is retained. The dugouts used on Lake Kivu are considerably larger. In Ruanda the sides of the boat are not built up by the addition of planks as is the case, for example, in Kiziba and Buganda. The boat's board formed by the edges of the hollowed-out trunk is higher or lower depending on the width or narrowness of the slit.

The oars (ngashi) are often carefully carved, and the blade (ulubega) is reinforced with a center rib (mugongo). The oars are free and held in the hand by the shaft (ulati).

● 501 In rowing, the oarsmen sit on the edges of the boat. Only the large Kivu canoes had seats which were fastened on either side with ropes passing through holes in the rim of the boat. The holes are made

[227]

Fig. 40. Fishhook from Mukinjaga. (Actual size. III E 6896. 17 centimeters long.)

463
[113]

Fig. 41. Oar from Mulera. (1/12 actual size. III E 13731. 181 centimeters long.)

with a percussion drill (umutwero).

Industry. In Ruanda, as Dr. R. Kandt's (1)

1. Cf. the monograph "Gewerbe in Ruanda [Industry in Ruanda]," "Zeitschrift für Ethnologie, 1904, pp. 329-372.

studies have already pointed out, industry has the character of handicraft or hired work. There are few branches of industry on the level of home industry where at times surplus goods not used in the household are sold. This is true, for example, of basketry which generally is produced by the women.

Beer which is brewed in every household seldom figures in business transactions and then only between friends, in exchange for the care of cows and for rented fields.

Potters and woodworkers are craftsmen who produce for the market, whereas metalworkers are wage earners who work on order. Wiredrawers [149], as well as the producers of barkcloth, reputedly work at the home of their employers.

487 the general direction is maintained. One must often make considerable detours in order to keep to the more frequented, convenient main arteries. This struck me particularly when, in Njakagungu on the way from Lake Mohasi to Nsasa, I crossed the road that led from Ruanda to Karagwe. The paths hug the ridges of the hills, since travel in the valleys is very difficult because of the many swamps. The constant ascent and descent from one ridge to another makes travel very troublesome.

493 The important people of the country are carried in basket litters (ngobi) on their journeys. The litter is like a woven trough. It is made [166] of bamboo sticks (migano) which run lengthwise and are fastened to each other with strips of rattan. The trough has at least three handles on each side through which are inserted two strong bamboo sticks. The bearers carry these sticks on their heads on round cushions. They move at a gentle trot. The occupant of the litter is in a half-reclining position.

484 The chiefs travel with all the comfort of home; they are, for example, accompanied by two cows (nzishwa) which are milked en route.

[492] Only Europeans ride animals.

491 Until recently bridges were entirely unknown in Ruanda. Now one has been built on land belonging to the Ruasa Mission over the rapids of the Mukungwa which were difficult to cross. Another connects the Issawi Mission with the neighboring hills. It stretches across a swamp.

501 Since ancient times river crossings have been provided with dugouts to ferry travelers. At the Akanjaru ferry near Kihinga, I had an opportunity to see a raft made of reeds and papyrus tied together. The raft was pulled from one shore to the other by means of a rope made out of plaited papyrus. The raft was three meters square and was strong enough to carry seven porters with their loads.

491 The Akanjaru which is one kilometer wide did not have an open surface of water as much as 20 meters wide on which a raft could move. It was a thick papyrus swamp through which we would have had to wade up to our hips at that time if a comfortable crossing had not been built with reeds and papyrus stalks laid next 312 to each other. Small dams are often constructed in the swamps to make a watering place for the cows. If the swamp has a considerable

312 gradient, a deeper free surface of water is formed above the dam, which serves as a watering place for cattle.

482 In Ruanda all goods are transported by porters. Lake Kivu
501 is the only waterway that is used. It is navigated with large, primitive dugouts which are not sea-worthy but can carry very considerable loads. Otherwise boats are used only to ferry travelers across the rivers on main thoroughfares.

133

Fig. 53. Cushions for Carrying Loads, Mulera. (1/6 actual size. III 13093. 21 1/2 centimeters in diameter.)

The rivers of Ruanda, however, have navigable stretches which in the future, with the development of transportation, will undoubtedly be used. [167] Thus, for example, I am convinced that the Nyawarongo is navigable from Mount Ndisa to the confluence of the Mukungwa and even farther. On the Kissaka border, also, I confirmed the navigability of the Kagera. Likewise, the Kagera can be navigated from the mouth of the Ruvuvu to the bend of the Mpororo.

492 Beasts of burden are not as yet used in Ruanda, although the 20 to 25 donkeys in the country, used by Europeans, are very serviceable and thrive well.

The use of waterways and beasts of burden, however, takes for granted an increase in porters' wages and a development in trade which the porters now available will no longer be able to handle.

482 In contrast to the custom in the northwest Congo areas, burdens are carried on the head in Ruanda. It is only among the Bahunde in the west that we begin to see people carry burdens on their backs. It seems that the eastern boundary of this method of carrying packs entends from Lake Kivu across to the Rutshuru River and north, along the eastern boundary of the Bakondjo territory, to the east of Lake Edward.